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March 21, 2002

WRITER'S DIRECT NUMBER: RECEIVED

APR 0 & 2002

TECH CENTER 1600/2900

Art Unit 1641

Commissioner for Patents Washington, D.C. 20231

Re:

U.S. Utility Patent Application

Appl. No. 09/893,443; Filed: June 29, 2001

Methods for Identifying Inhibitors of the Anaphase Promoting Complex

Inventors:

Gmachl et al.

Our Ref:

0652.2310001/EKS/VSR

Sir:

Transmitted herewith for appropriate action are the following documents:

Information Disclosure Statement; 1.

A listing of the cited documents on form PTO-1449; 2.

Copies of the cited documents on form PTO-1449 (AA1; AL1-AM1; AR1-AR35); and 3.

Return Postcard.

It is respectfully requested that the attached postcard be stamped with the date of filing of these documents, and that it be returned to our courier. In the event that extensions of time are necessary to prevent abandonment of this patent application, then such extensions of time are hereby petitioned.

The U.S. Patent and Trademark Office is hereby authorized to charge any fee deficiency, or credit any overpayment, to our Deposit Account No. 19-0036.

Respectfully submitted,

STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.

Eric K. Steffe

Attornéy for Applicants Registration No. 36,688

EKS/VSR:krm Enclosures

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MAR 2 2 2002
IN THE UNITER STATES PAT

OFFIRM A STORY

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

GMACHL et al.

Appl. No. 09/893,443

Filed: June 29, 2001

For: Methods for Identifying Inhibitors

of the Anaphase Promoting

Complex

Confirmation No. 6378

Art Unit: 1641

Examiner: To Be Assigned

Atty. Docket: 0652.2310001/EKS/VSR

**Information Disclosure Statement** 

Commissioner for Patents Washington, D.C. 20231

Sir:

Listed on accompanying Form PTO-1449 are documents that may be considered material to the examination of this application, in compliance with the duty of disclosure requirements of 37 C.F.R. §§ 1.56, 1.97 and 1.98. A copy of each of these documents is provided.

Where the publication date of a listed document does not provide a month of publication, the year of publication of the listed document is sufficiently earlier than the effective U.S. filing date and any foreign priority date so that the month of publication is not in issue. Applicants have listed publication dates on the attached PTO-1449 based on information presently available to the undersigned. However, the listed publication dates should not be construed as an admission that the information was actually published on the date indicated.

Applicants reserve the right to establish the patentability of the claimed invention over any of the information provided herewith, and/or to prove that this information may

not be prior art, and/or to prove that this information may not be enabling for the teachings

purportedly offered.

This statement should not be construed as a representation that a search has been

made, or that information more material to the examination of the present patent application

does not exist. The Examiner is specifically requested not to rely solely on the material

submitted herewith. It is further understood that the Examiner will consider information

that had been cited or submitted to the U.S. Patent and Trademark Office in a prior

application relied on under 35 U.S.C. § 120. 1138 OG 37, 38 (May 19, 1992).

It is respectfully requested that the Examiner initial and return a copy of the enclosed

PTO-1449, and to indicate in the official file wrapper of this patent application that the

documents have been considered.

This Information Disclosure is being filed before the mailing date of a first Office

Action on the merits. No statement or fee is believed to be required.

The U.S. Patent and Trademark Office is hereby authorized to charge any fee

deficiency, or credit any overpayment, to our Deposit Account No. 19-0036.

Respectfully submitted,

STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.

Eric K/Steffe

Attorney for Applicants Registration No. 36,688

Date:

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APPLICATION FRO 1600 2900 35

FORM PTO-1449

### INFORMATION DISCLOSURE STATEMENT

ATEY. DOCKET NO.

APPLICANT Gmachl, et al.

FILING DATE 06/29/2001

GROUP 1641

|                     |     |              |                                  |                                | 06/29/2001   | 1641   |                          |                               |  |  |
|---------------------|-----|--------------|----------------------------------|--------------------------------|--|--|--------------------------|-------------------------------|--|--|
|                     |     |              |                                  | U.S.                           | PATENT DOCUMENTS   |  |                          |                               |  |  |
| EXAMINER<br>INITIAL |     | DOCU         | IMENT<br>BER                     | DATE                           | NAME   | CLASS  | SUB-<br>CLASS            | FILING DATE                   |  |  |
|                     | AA1 | 5,72         | 26,025                           | 03/10/1998                     | Kirschner, M.W., et al.,   | 435  | 7.2                      | 04/20/1995                    |  |  |
|                     | AB  | _            |                                  |                                |  |  |                          |                               |  |  |
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|                     |     |              |                                  | FOREIG                         | N PATENT DOCUMENTS   |  | Ţ                        |                               |  |  |
| EXAMINER<br>INITIAL |     | DOCU<br>NUME | JMENT<br>BER                     | DATE                           | COUNTRY  | CLASS  | SUB-<br>CLASS            | TRANSLATION                   |  |  |
|                     | AL1 | WO S         | 96/33286                         | 10/24/1996                     | WIPO   |  |                          | Ye<br>N                       |  |  |
|                     | AM1 | WO S         | 98/21326                         | 05/22/1998                     | WIPO   |  |                          | Ye<br>N                       |  |  |
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|                     |     |              | OTHER (Inc.                      | luding Author,                 | Title, Date, Pertinent Pag   | ges, etc.)   |                          |                               |  |  |
|                     | AR  | 1            | Altschul,<br>database<br>(1997). | S.F., et al.<br>search progra  | , "Gapped BLAST and PSI-BLA<br>ms," <i>Nucl. Acids Res. 25</i> :33                   | ST: a new<br>89-3402, (  | generatic<br>Oxford Uni  | n of protein<br>versity Press |  |  |
|                     | AS  | 1            | Initiated                        | at Mitosis P                   | sing the Cell Cycle Circle<br>ersists until the Activatio<br>050, Cell Press (1994). | cle in Yeast: G2 Cyclin Proteolysis<br>ation of G1 Cyclins in the Next |                          |                               |  |  |
|                     | AT  | 1            | Araki, H.<br>cell grow<br>(1992) | , et al., "Th<br>th only at hi | e CDC26 gene of Saccharomyc<br>gh temperature," <i>Mol. Gen</i> .                    | es cerevi<br>Genet. 23   | siae is re<br>1:329-331, | quired for<br>Springer        |  |  |
| EXAMINER            |     | <u></u>      | 1                                |                                |  | DATE CONS  | SIDERED                  |                               |  |  |

**EXAMINER:** Initial if reference considered, whether or not citation is in conformance with MPEP 609. line through citation if not in conformance and not considered. Include copy of this form with next

communication to Applicant.



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FORM PTO-1449

communication to Applicant.

0652.2310001

TECHSCENTER 1600/2900

APPLICANT Gmachl, et al.

| EXAMINER INITIAL  AA  AB  AC  AC  AC  AC  AC  AC  AC  AC | DOC NUM  B C D E F G H | CLOSURE STA    |                               | PATENT DOCUMENTS  NAME  | CLASS                                     | SUB-<br>CLASS           | FILING DATE         |
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| AM   |                        | CUMENT<br>IBER | DATE                          | COUNTRY   | CLASS                                     | SUB-<br>CLASS           | TRANSLATION         |
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|  |                        | OTHER (Inc     | luding Author,                | Title, Date, Pertinen   | t Pages, etc.)                            |                         |                     |
| AR   | R <u>2</u>             | required       | for the destru                | , "E2-C, a cyclin-selection of mitotic cyclin<br>Academy Press (1996) | ctive ubiquitin<br>ins," <i>Proc. Nat</i> | carrier<br>1. Acad.     | protein<br>Sci. USA |
| AS   | s <u>2</u>             |                | is Machinery t                | Connects Cell Cycle Rethrough a Novel Motif,                          |   |                         |                     |
| AT   | T 2                    | a sequenc      | C.L.B., and Free-structure fo | eemont, P.S., "The RING<br>amily," <i>Curr. Opin. St.</i>             | G finger domain<br>ruct. Biol. 6:3        | : a recen<br>195-401, E | t example of        |
| EXAMINER   |                        | 1              |                               |   | DATE CONS                                 | IDERED                  |                     |



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| -                   |          |          | •                        | WEN  | IALLE  |             |               |  | Page 3 of 35                          |
|---------------------|----------|----------|--------------------------|--|--|-------------|---------------|--|---------------------------------------|
|                     |          |          |                          |  | ATTY. DOCKET NO. 0652.2310001  |             |               | CATION NO<br>3,443                               |                                       |
| TNI                 |          |          | PTO-1449<br>SCLOSURE STA | ·<br>· · · · · · · · · · · · · · · · · · · | APPLICANT Gmachl, et al.   |             |               |  |                                       |
| INI                 | FORMATIC | ON DIS   | CLUSURE SI               | <u> TIEMENI</u>                            | FILING DATE<br>06/29/2001  |             | GROUP<br>1641 |  |                                       |
|                     |          |          |                          | U.S.                                       | PATENT DOCUMENTS   |             |               |  |                                       |
| EXAMINER<br>INITIAL |          |          | CUMENT<br>IBER           | DATE                                       | NAME   | CLA         | ss            | SUB-<br>CLASS                                    | FILING DATE                           |
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|                     | AL       |          |                          |  |  |             |               |  | Yes<br>No                             |
|                     | AM       |          |                          |  |  |             |               |  | Yes.<br>No                            |
|                     | AN       |          |                          |  |  |             |               |  | Yes<br>No                             |
|                     | AO       |          |                          |  |  |             |               |  | Yes<br>No                             |
|                     | AP       |          |                          |  |  |             |               |  | Yes<br>No                             |
|                     | AP       | <u> </u> | OTHER (Inc               | luding Author                              | , Title, Date, Pertinent Pa  | res e       | etc )         | <u> </u>   | ı NO                                  |
|                     | AR       | 3        | Borden, K                | .L.B., et al.                              | , "In vivo and in vitro charom the acute promyelocytic USA 93:1601-1606, The Nati  | aracte:     | rizat<br>emia | protooncop                                       | protein PML,"                         |
|                     | AS       | 3        | Ciechanov<br>Cell Pres   |  | Ubiquitin-Proteasome Protec  | olytic      | Path          | way," Cel  | 1 79:13-21,                           |
|                     | AT       | 3        | controlle                | d by the APC-                              | "Anaphase initiation in Sadependent degradation of the 3, Cold Spring Harbor Labor | ne ana      | phase         | inhibito   |                                       |
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FORM PTO-1449

### INFORMATION DISCLOSURE STATEMENT

APPLICANT Gmachl, et al.

FILING DATE 06/29/2001

GROUP 1641

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| EXAMINER<br>INITIAL                   |    | DOC | UMENT<br>BER                    | DATE                          | NAME   |                          | CLASS                                  | SUB-<br>CLASS      | FILING DATE            |
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| EXAMINER<br>INITIAL                   |    | DOC | UMENT                           | DATE                          | COUNTRY  |                          | CLASS                                  | SUB-<br>CLASS      | TRANSLATION            |
|                                       | AL |     |                                 |                               |  |                          | ·                                      |                    | Yes<br>No              |
|                                       | AM |     |                                 |                               |  |                          |  |                    | Yes<br>No              |
|                                       | AN |     |                                 |                               |  |                          |  |                    | Yes                    |
|                                       | AO |     |                                 |                               |  |                          |  |                    | Yes<br>No              |
|                                       | AP |     |                                 |                               |  |                          |  |                    | Yes                    |
| · · · · · · · · · · · · · · · · · · · |    | •   | OTHER (In                       | cluding Author                | or, Title, Date, Pe  | ertinent Pac             | res. etc.)                             |                    |                        |
|                                       | AR | 4   | Cvrčková<br>protein<br>Press (1 | have a role                   | myth, K., "Yeast $G_1$ in bud formation,"                    | cyclins CI<br>EMBO J. 12 | <i>LN1</i> and <i>CL</i><br>:5277-5286 | N2 and a 5, Oxford | GAP-like<br>University |
|                                       | AS | 4   | replicat                        | ion by inhib                  | "S-phase-promoting the transition of the Curr. Biol. 5:1257- | on of repli              | cation or:                             | igins to a         | pre-                   |
|                                       | AT | 4   | Deshaies<br>Dev. Bio            | , R.J., "SCF<br>01. 15:435-46 | and Cullin/RING H:<br>7, Annual Reviews                      | 2-Based Ubi<br>(1999)    | quitin Li                              | gases," <i>Ar</i>  | nnu. Rev. Cell         |
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FORM PTO-1449

INFORMATION DISCLOSURE STATEMENT

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ATTY. DOCKET NO. 0652.2310001

APPLICANT Gmachl, et al.

FILING DATE 06/29/2001

GROUP 1641

09/893,443

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|                     | AL   |                                     |                |  |                                |   |                         | Yes<br>No                  |  |  |
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|                     | AR   | 5 Analyz                            | ing Ubiquitin  | Hochstrasser, M., "<br>Function," <i>J. Biol</i><br>d Molecular Biology  | . Chem. 266:2                  | 1150-211  | tin: A Ne<br>57, Ameri  | w Probe for<br>can Society |  |  |
|                     | AS   | 5 Putati                            | ve Membrane-s  | , "A Negative Regul<br>panning Protein," <i>J</i><br>istry and Molecular | . Biol. Chem.                  | of Mitosis in <i>Aspergillus</i> Is a<br>1. <i>Chem. 265</i> :16132-16137, American<br>ogy, Inc. (1990) |                         |                            |  |  |
|                     | AT . | Epstei<br><u>5</u> role i<br>(1992) | n S phase," G  | ross, F.R., "CLB5:<br>enes Dev. 6:1695-17                                | a novel B cyc<br>06, Cold Spri | lin from  | n budding<br>or Laborat | yeast with a<br>ory Press  |  |  |
| EXAMINER            |      | <u> </u>                            |                |  | D                              | ATE CONS  | SIDERED                 |                            |  |  |



FORM PTO-1449

INFORMATION DISCLOSURE STATEMENT

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Page 6 of 35 Page 6 of 35 09/893,443 ATTY. DOCKET NO. 0652.2310001

APPLICANT

Gmachl, et al.

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| EXAMINER<br>INITIAL                               |          | DOCU<br>NUME | JMENT<br>BER       | DATE                        | NAME   | CLASS                                    | SUB-<br>CLASS         | FILING DATE                  |
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|   | AIK      |              |                    | FOR                         | REIGN PATENT DOCUMENTS   |  |                       |                              |
| EXAMINER<br>INITIAL                               |          | DOCU         | UMENT              | DATE                        | COUNTRY  | CLASS                                    | SUB-<br>CLASS         | TRANSLATION                  |
|   | AL       | NOM          | 367                |                             |  |  |                       | Yes<br>No                    |
|   | AM       |              |                    |                             |  |  |                       | Yes<br>No                    |
|   | AN       |              |                    |                             |  |  |                       | Yes<br>No                    |
|   | AO       |              |                    |                             |  |  |                       | Yes<br>No                    |
| <del>, , , , , , , , , , , , , , , , , , , </del> | AP       |              |                    |                             |  |  |                       | Yes<br>No                    |
|   |          |              | OTHER (In          | cluding Autl                | hor, Title, Date, Per  | tinent Pages, etc.                       | )                     |                              |
|   | AR       | <u>6</u>     | Itself a           | and p53," J.                | Mdm2 Is a RING Finger<br><i>Biol. Chem. 275</i> :8945<br>gy, Inc. (March 2000) | -dependent Ubiquit<br>-8951, American So | in Protein            | n Ligase for<br>Biochemistry |
|   | AS       | <u>6</u>     | Funabik<br>in fiss | i, H., et al<br>ion yeast," | ., "Cut2 proteolysis<br>Nature 381:438-441, M                                  | required for siste<br>acmillan Magazines | r-chromat<br>Ltd (199 | id separation<br>6)          |
|   | AT       | <u>6</u>     | based of           | n intramolec                | nd Kholodovych, V.V.,<br>ular fluorescence ene<br>:135, Elsevier Scienc        | rgy transfer (IFET                       | S)," J. B             | r proteases<br>iochem.       |
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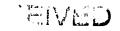
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FORM PTO-1449 APPLICANT INFORMATION DISCLOSURE STATEMENT

Gmachl, et al.

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|                     |    |          |              |  | 06/29/2001  |          | 1641        |               |             |
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|                     |    |          |              | U  | .S. PATENT DOCUMENTS                                |          |             |               |             |
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|                     | AE |          |              |  |   |          | <u> </u>    |               |             |
|                     | AF | _        |              |  |   |          |             |               |             |
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|                     | AH | <u> </u> |              |  |   |          | ļ           |               |             |
|                     | AI |          |              |  |   |          |             |               |             |
|                     | AJ |          |              |  |   |          |             |               |             |
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|                     | AL |          |              |  |   |          |             |               | Yes<br>No   |
|                     | AM |          |              |  |   |          |             |               | Yes<br>No   |
|                     | AN |          |              |  |   |          |             |               | Yes         |
|                     | AO |          |              |  |   |          |             |               | Yes<br>No   |
|                     |    |          |              |  |   |          |             |               | Yes         |
|                     | AP |          |              |  |   |          |             |               | No          |
|                     | AR | 7        | Gieffer      |  | nor, Title, Date, Per ., "Cullins and cell n (2000) |          |             |               | 211:20-28,  |
|                     | AS | 7        | constru      | D. and Sugino, A., " New yeast-Escherichia coli shuttle vectors ted with in vitro mutagenized yeast genes lacking six-base pair ion sites," Gene 74:527-534, Elsevier Science Publishers B.V. (1988) |   |          |             |               |             |
|                     | AT | 7        |              |  | "Cyclin is degraded<br>lan Magazines Ltd (19        |          | iquitin p   | athway,"      | Nature      |
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|                     | АВ  |  |               |                              |  |   |         |                                 |             |  |
|                     | AC  |  |               |                              |  |   |         |                                 |             |  |
|                     | AD  |  |               |                              |  |   |         |                                 |             |  |
|                     | AE  |  |               | <u></u>                      |  |   |         |                                 |             |  |
|                     | AF  |  |               | <b></b>                      |  |   |         |                                 |             |  |
|                     | AG  |  |               | <u> </u>                     |  |   |         |                                 |             |  |
|                     | AH  |  |               |                              |  |   |         |                                 |             |  |
|                     | AI  |  |               |                              |  |   |         |                                 |             |  |
|                     | AJ  |  |               |                              |  |   |         | <u> </u>                        |             |  |
|                     | AK  |  |               |                              |  |   |         |                                 |             |  |
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|                     | AL  |  |               |                              |  |   |         |                                 | Yes<br>No   |  |
|                     | AM  |  |               |                              |  |   |         |                                 | Yes         |  |
|                     | AN  |  |               |                              |  |   |         |                                 | Yes         |  |
|                     | AO  |  |               |                              |  |   |         |                                 | Yes         |  |
|                     | AP  |  |               |                              | -  |   |         |                                 | Yes         |  |
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|                     | AR  | 8  | Grossberg     | ger, R. et a<br>Juman Anapha | 1., "Characterization is a complex before the complex and more than the complex and the complex an | on of the DOC1  | /APC10  | 74:14500-                       | 14507,      |  |
|                     | AS  | 8  | Expression    | on of a Fund                 | tional Protein in E:   | uitin Activating Enzyme from Wheat and scherichia coli," J. Biol. Chem. iochemistry and Molecular Biology,Inc |         |                                 |             |  |
|                     | AT  | Hatfield, P.M. and Vierstra, R.D., "Multiple Forms of Ubiqutin-activating Enzyme El from Wheat," Biol. Chem. 267:14799-14803, Walter de Gruyter and Company (1992) |               |                              |  |   |         | rating Enzyme<br>company (1992) |             |  |
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|                     | AC |               |   |                                       |   |             |               |             |
|                     | AD |               |   |                                       |   |             |               |             |
|                     | AE |               |   |                                       |   |             |               |             |
|                     | AF |               |   |                                       |   |             |               |             |
|                     | AG |               |   |                                       |   |             |               |             |
|                     | AH |               |   |                                       |   |             |               |             |
|                     | AI |               |   |                                       |   |             |               |             |
|                     | AJ |               |   |                                       |   |             |               |             |
|                     | AK |               | <u>.</u>  |                                       |   |             |               |             |
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| EXAMINER<br>INITIAL |    |               | UMENT<br>BER  | DATE                                  | COUNTRY   | CLASS       | SUB-<br>CLASS | TRANSLATION |
|                     | AL |               |   |                                       |   |             |               | Yes<br>No   |
|                     | AM |               |   |                                       |   |             |               | Yes<br>No   |
|                     | AN |               |   |                                       |   |             |               | Yes<br>No   |
|                     | AO |               |   |                                       |   |             |               | Yes<br>No   |
|                     | AP |               |   |                                       |   |             |               | Yes<br>No   |
|                     |    |               | OTHER (Inc.   | luding Author,                        | Title, Date, Pertinent Pa   | ges, etc.)  |               |             |
|                     | AR | 9             | pombe Gen<br>Elongatio  | e <i>nuc2+</i> That H                 | Temperature-sensitive Muta<br>Encodes a Nuclear Scaffold-<br>Anaphase," <i>J. Cell Biol. 10</i> | ·like Prote | in Blocks     | Spindle     |
|                     | AS | <u>ə</u>      | Holloway, S.L., et al., "Anaphase Is Initiated by Proteolysis Rather Than by Inactivation of Maturation-Promoting Factor," Cell 73:1393-1402, Cell Press (1993) |                                       |   |             |               |             |
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APPLICATION NO.

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|                     |    |              |                          | U.S.           | PATENT DOCUMENTS  |          |               |                          |                       |
| EXAMINER<br>INITIAL |    | DOCU         | JMENT<br>BER             | DATE           | NAME  | CL       | ASS           | SUB-<br>CLASS            | FILING DATE           |
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|                     | AC |              |                          |                |   |          |               |                          |                       |
|                     | AD |              |                          |                |   |          |               |                          |                       |
|                     | AE |              |                          |                |   |          |               |                          |                       |
|                     | AF |              |                          |                |   |          |               |                          |                       |
|                     | AG |              |                          |                |   |          |               |                          |                       |
|                     | АН |              |                          |                |   |          |               |                          |                       |
|                     | AI |              |                          |                |   |          |               |                          |                       |
|                     | AJ |              |                          |                |   |          |               |                          |                       |
|                     | AK |              |                          |                |   |          |               |                          |                       |
|                     |    |              |                          | FOREIG         | N PATENT DOCUMENTS  |          |               |                          |                       |
| EXAMINER<br>INITIAL |    | DOCU<br>NUME | JMENT<br>BER             | DATE           | COUNTRY   | CL       | ASS           | SUB-<br>CLASS            | TRANSLATION           |
| -                   | AL |              |                          | _              |   |          |               |                          | Yes<br>No             |
|                     | AM |              |                          |                |   |          |               |                          | Yes<br>No             |
|                     | AN |              |                          |                |   |          |               |                          | Yes<br>No             |
|                     | AO |              |                          |                |   |          |               |                          | Yes<br>No             |
|                     | AP |              |                          | -              |   |          |               |                          | Yes<br>No             |
|                     |    |              | OTHER (Incl              | uding Author,  | Title, Date, Pertinent Pa   | ges,     | etc.)         | <u> </u>                 |                       |
|                     | AR | <u>10</u>    | Irniger, S               | S., et al., "G | enes Involved in Sister Ch<br>colysis in Budding Yeast,"                          | romat    | id Se         | paration A<br>9-277, Cel | are Needed<br>1 Press |
|                     | AS | 10           | Jackson, I<br>Biology Lt |                | cle: Cull and destroy," C   | urr.     | Biol.         | 6:1209-12                | 212, Current          |
|                     | AT | <u>10</u>    | encodes mu               | ultiple cell c | The Aspergillus nidulans bicycle functions involved in 108:3485-3499, The Company | mit      | otic c        | heckpoint                | control and           |
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06/29/2001 U.S. PATENT DOCUMENTS EXAMINER INITIAL DOCUMENT DATE NAME CLASS SUB-FILING DATE CLASS NUMBER AΑ AΒ AC ΑD ΑE AF AG AΗ ΑI ΑJ ΑK FOREIGN PATENT DOCUMENTS EXAMINER COUNTRY CLASS SUB-TRANSLATION DOCUMENT DATE INITIAL NUMBER CLASS Yes No AT. No AM Yes AN No Yes No ΑO Yes AΡ OTHER (Including Author, Title, Date, Pertinent Pages, etc.) Joazeiro, C.A.P., et al., "The Tyrosine Kinase Negative Regulator c-Cbl as a RING-Type, E2-Dependent Ubiqutin-Protein Ligase, "Science 286:309-312, American AR 11 Association for the Advancement of Science (1999) Joazeiro, C.A. and Weissman, A.M., "RING Finger Proteins: Mediators of Ubiquitin Ligase Activity," *Cell 102*:549-552, Cell Press (September 2000) AS 11 Juang, Y.-L., et al., "APC-Mediated Proteolysis of Asel and the Morphogenesis of the Mitotic Spindle," Science 275:1311-1314, American Association for the ΑТ <u>11</u> Advancement of Science (1997) DATE CONSIDERED EXAMINER

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|                     | AL               |         |                      |  |                  |   |                      |                        |                   | Yes<br>No                     |
|                     | АМ               |         | - 0-                 |  |                  |   |                      |                        |                   | Yes<br>No                     |
| <u> </u>            | AN               |         |                      |  |                  |   |                      |                        |                   | Yes<br>No                     |
|                     | AO               |         |                      |  |                  |   |                      |                        |                   | Yes<br>No                     |
|                     | AP               |         |                      |  |                  |   |                      |                        |                   | Yes<br>No                     |
|                     |                  |         | OTHER (Inc           | cluding Autl   | hor, T           | itle, Date, Pertir                      | nent Pag             | es, etc.)              |                   |                               |
|                     | AR               | 12      | Ubiquiti             | r. et al.,<br>n Ligase,"<br>ce (1999)  | "Rbx1,<br>Scienc | a Component of the 284:657-661, Am      | he VHL T<br>erican A | umor Supp<br>ssociatio | oressor Co        | omplex and SCF<br>Advancement |
|                     | AS               | 12      | Mitosis-             | King, R.W., et al., "A 20S Complex Containing CDC27 and CDC16 Catalyzes the Mitosis-Specific Conjugation of Ubiquitin to Cyclin B," Cell 81:279-288, Cell Press (1995) |                  |   |                      |                        |                   |                               |
|                     | AT               | 12      | Kipreos,<br>Identifi | E.T., et a<br>es a Novel   | 1., "c<br>Gene E | cul-1 Is Required<br>Camily," Cell 85:8 | for Cell<br>29-839,  | Cycle E:<br>Cell Pre:  | xit in <i>C</i> . | elegans and                   |
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|                     | AF |          |                                 |                                 | -   |                         |                     |                        |                            |
|                     | AG | <u> </u> |                                 |                                 |   | <u> </u>                |                     |                        | -                          |
|                     | AH |          |                                 |                                 |   |                         |                     | <u></u>                |                            |
|                     | AI |          |                                 | <u> </u>                        |   |                         |                     |                        |                            |
|                     | AJ |          |                                 |                                 |   |                         |                     |                        |                            |
|                     | AK |          |                                 | <u> </u>                        |   |                         |                     |                        |                            |
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|                     | AL |          |                                 |                                 |   |                         |                     |                        | Yes<br>No                  |
|                     | AM |          |                                 |                                 |   |                         |                     | -                      | Yes                        |
|                     | AN |          |                                 |                                 |   |                         |                     |                        | Yes<br>No                  |
|                     | AO |          |                                 |                                 |   |                         |                     |                        | Yes<br>No                  |
|                     | AP |          |                                 |                                 |   |                         |                     |                        | Yes<br>No                  |
| •                   |    |          | OTHER (Inc                      | luding Author                   | , Title, Date, Pertin   | ent Pages               | , etc.)             |                        |                            |
|                     | AR | 13       | Kramer, F<br>proteins<br>(1998) | E.R. et al., of the CDC20,      | "Activation of the hur<br>/Fizzy family," <i>Curr</i> .                     | man anapha<br>Biol. 8:1 | se-prom<br>207-121  | oting com              | nplex by<br>nt Biology Ltd |
|                     | AS | 13       | Lamb, J.I                       | R., et al., "0<br>' EMBO J. 13: | Cdc16p, Cdc23p and Cdc<br>4321-4328, Oxford Univ                            | c27p form<br>versity Pr | a compl<br>cess (19 | .ex essent<br>194)     | ial for                    |
|                     | AT | 13       | strategy                        | for characte:                   | n, M., "Cell biology or<br>rizing multiprotein co<br>39-142, Elsevier Scien | omplexes b              | y using             | ojects -<br>g mass spe | a concerted ectrometry,"   |
| EXAMINER            |    | J        | <u> </u>                        |                                 |   | DA                      | TE CONS             | IDERED                 |                            |

**EXAMINER**: Initial if reference considered, whether or not citation is in conformance with MPEP 609.

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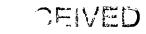
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|                     |    |             |  |  | 06/29/2001   |               | 1641         |               |             |
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|                     | AP |             |  |  |  |               |              |               | Ye<br>N     |
|                     |    |             | OTHER (Ir                              | ncluding Auth  | nor, Title, Date, Pe   | rtinent Pages | , etc.)      |               |             |
|                     | AR | 14          | in the                                 | yeast genome   | and Jacobs, E., "A m<br>using a recyclable<br>d University Press ( | selectable ma |              |               |             |
|                     | AS | 14          | Ubiquit:                               | Leverson, J.D. et al., "The APC11 RING-H2 Finger Mediates E2-Dependent Ubiquitination," <i>Mol. Biol. Cell 11</i> :2315-2325, The American Society for Cell Biology (July 2000)                |  |               |              |               |             |
|                     | АТ | 14          | Underlie                               | Levkowitz, G. et al., "Ubiquitin Ligase Activity and Tyrosine Phosphorylation Underlie Suppression of Growth Factor Signaling by c-Cbl/Sli-1," <i>Mol. Cell</i> 4:1029-1040, Cell Press (1999) |  |               |              |               |             |
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### INFORMATION DISCLOSURE STATEMENT

| Œ | ATTY. DOCKET NO.<br>0652.2310001 | APPLICATION NO. 09/893,443 |
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|   | APPLICANT<br>Gmachl, et al.      |                            |
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|                     | AL          |              |              |   |     |   |            |                 |                         | Yes<br>No                |
|                     | AM          |              |              |   |     |   |            |                 |                         | Yes<br>No                |
|                     | AN          |              |              |   |     |   |            |                 |                         | Yes<br>No                |
|                     | AO          |              |              |   |     |   |            |                 |                         | Yes<br>No                |
|                     | AP          |              |              |   |     |   |            |                 |                         | Yes<br>No                |
|                     |             | (            | OTHER (Incl  | uding Author,   | Т   | Pitle, Date, Pertinent Pag  | es,        | etc.)           |                         |                          |
|                     | AR          | <u>15</u>    | dependent    | .L., et al., "<br>ubiquitination<br>ress (1999)   | "R] | ING fingers mediate ubiqui<br>" Proc. Natl. Acad. Sci.                                      | tin<br>USA | -conju<br>96:11 | gating en:<br>364-11369 | zyme (E2)-<br>, National |
|                     | AS          | <u>15</u>    | M-phase, I   | Luca, F.C., et al., "Both cyclin A $\Delta$ 60 and B $\Delta$ 97 are stable and arrest cells in M-phase, but only cyclin B $\Delta$ 97 turns on cyclin destruction," EMBO J. 10:4311-4320, Oxford University Press (1991) |     |   |            |                 |                         |                          |
|                     | AT          | <u>15</u>    | Potential    | Regulator of  | tŀ  | "The <i>Saccharomyces cerev</i><br>ne Mitotic Function of Yea<br>-3785, American Society fo | ast '      | Type 1          | Protein :               | Phosphatase,"            |
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### INFORMATION DISCLOSURE STATEMENT

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| ATTY. DOCKET NO. 0652.2310001 | APPLICATION NO. 09/893,443  |
| APPLICANT<br>Gmachl, et al.   |                             |
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|                     |    |                |  |   | 06/29/2001   | 1641   |               |                               |  |  |
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|                     | AL | +              |  |   |  | <del>                                     </del> |               | No<br>Yes                     |  |  |
|                     | AM |                |  |   |  |  |               | No<br>No                      |  |  |
|                     | AN |                |  |   |  |  |               | Yes<br>No                     |  |  |
|                     | AO |                |  |   |  |  |               | Yes<br>No                     |  |  |
|                     | AP |                |  |   |  |  |               | Yes<br>No                     |  |  |
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|                     | AR | <u>16</u>      | Mann, M. and Wilm, M., "Error-Tolerant Identification of Peptides in Sequence Databases by Peptide Sequence Tags," Anal. Chem. 66:4390-4399, American Chemical Society (1994). |   |  |  |               |                               |  |  |
|                     | AS | <u>16</u>      | Proteases  | Matayoshi, E.D. et al., Novel Fluorogenic Substrates for Assaying Retroviral Proteases by Resonance Energy Transfer," <i>Science 247</i> :954-958, American Association for the Advancement of Science (1990) |  |  |               |                               |  |  |
|                     | АТ | 16             | G1-to-S-Ph   | nase Transitio  | Edc53p Acts in Concert with on and Identifies a Conserve | ed Family  | of Protein    | Control the ns," <i>Mol</i> . |  |  |
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### INFORMATION DISCLOSURE STATEMENT

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|                     |               |              |                                       |   | 06/29/2001                                       | 11641      |                 |               |  |
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|                     | AL            |              |                                       |   |  |            |                 | Yes<br>No     |  |
|                     | AM            |              |                                       |   |  |            |                 | Yes<br>No     |  |
|                     | AN            |              |                                       |   |  |            |                 | Yes<br>No     |  |
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|                     | AP            |              |                                       |   |  |            |                 | Yes<br>No     |  |
|                     |               |              | OTHER (Inc                            | luding Author,  | Title, Date, Pertinent Pa                        | ges, etc.) |                 |               |  |
|                     | AR            | <u>17</u>    | Morgan, E<br>1:E47-E53                | 0.0., "Regulat:<br>, Macmillan Pu   | ion of the APC and the exitublishers, Ltd (1999) | from mito  | sis," <i>Na</i> | t. Cell Biol. |  |
|                     | AS            | <u>17</u>    | Muhlrad,<br>Yeast 8:7                 | Muhlrad, D. <i>et al.</i> , "A Rapid Method for Localized Mutagenesis of Yeast Genes,"<br>Yeast 8:79-82, John Wiley & Sons Ltd (1992)   |  |            |                 |               |  |
|                     | АТ            | <u>17</u>    | of matura                             | Murray, A.W. et al., "The role of cyclin synthesis and degradation in the control of maturation promoting factor activity," <i>Nature 339</i> :280-286, Macmillan Magazines, Ltd (1989) |  |            |                 |               |  |
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### INFORMATION DISCLOSURE STATEMENT

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|                     | AM  |              |                                |  |  |                              |                        |                          | Yes<br>No             |
|                     | AN  |              |                                |  |  |                              |                        |                          | Yes<br>No             |
|                     | AO  |              |                                |  |  |                              |                        |                          | Yes<br>No             |
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|                     | AR  | 18           | Murray, A                      | A., " <i>Cell C</i> y<br>Press, Inc.   | vcle Extracts" in Me<br>, San Diego, CA 36:        | eth Cell Bio<br>:581-605 (19 | ol., Kay,<br>991)      | B. and H.                | Peng, eds.,           |
|                     | AS  | <u>18</u>    | Nasmyth,<br>Promoter<br>(1990) | Nasmyth, K., "The Identification of a Second Cell Cycle Control on the <i>HO</i><br>Promoter in Yeast: Cell Cycle Regulation of SW15 Nuclear Entry," <i>Cell 62</i> :631-647<br>(1990) |  |                              |                        |                          |                       |
|                     | АТ  | 18           | nuclear                        | , G., et al.<br>ribonucleopr<br>85-390 (1997   | , "Identification of<br>cotein complex by ma<br>') | of the prote                 | eins of the netry," P. | ne yeast U<br>roc. Natl. | l small<br>Acad. Sci. |
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|                     | AI<br>AJ | +           |              | <del>                                     </del>   |   |                          |                        |                        |  |
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|                     | AL       |             |              |  | ·   |                          |                        |                        | Yes<br>No  |
|                     | AM       |             |              |  |   |                          |                        |                        | Yes<br>No  |
|                     | AN       |             |              |  |   |                          |                        |                        | Yes<br>No  |
|                     | AO       |             |              |  |   |                          |                        |                        | Yes<br>No  |
|                     | AP       |             |              |  |   |                          |                        |                        | Yes<br>No  |
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| 1                   | AR       | <u>19</u>   | family of    | f proteins ar  | al., "bimA encodes and is required for total. 99:711-719, The | he comple                | tion of m              | itosis in              | Aspergillus                                      |
|                     | AS       | <u>19</u>   | Partners     | Ohta, T. et al., "ROC1, a Homolog of APC11, Represents a Family of Cullin<br>Partners with an Associated Ubiquitin Ligase Activity," <i>Mol. Cell 3</i> :535-541, Cell<br>Press (1999) |   |                          |                        |                        |  |
|                     | AT       | 19          | Blocked a    | S.A., <i>et al.</i> ,<br>at Interphase<br>51, Cell Pres  | , "Spindle Formation<br>e by Mutation of a N<br>ss (1988)     | n and Chro<br>Negative C | matin Con<br>ell Cycle | densation<br>Control ( | in Cells<br>Gene," <i>Cell</i>                   |
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| ATTY. DOCKET NO.<br>0652.2310001 | APPLICATION NO. 09/893,443 |
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|                     | АМ |           |                        |  |  |                        |  |               | Yes<br>No       |
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|                     | AR | <u>20</u> | Page et a<br>Rev. Biod | 11., "The ana<br>them. 68:583-                   | aphase-promoting comp<br>-609, Palo Alto Ca Ar             | plex: new<br>nnual Rev | subunits<br>iews (1999                           | and regul     | ations," Ann.   |
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### INFORMATION DISCLOSURE STATEMENT

| АТТУ <b>О</b> СКЕТ NO.<br><b>5892</b> 2310001 | APPLICATION NO. 09/893,443 |
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| APPLICANT<br>Gmachl, et al.                   |                            |
| FILING DATE                                   | GROUP                      |

|                     |  |              |                                       |  | 06/29/2001                           |                                       | 1641                                    | <u> </u>      |  |
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| ·                   | AG   | -            |                                       |  |                                      |                                       |   | _             | <del>                                     </del> |
|                     | AH   | -            |                                       |  |                                      |                                       |   |               |  |
|                     | AI   |              |                                       |  |                                      |                                       |   | <del> </del>  |  |
|                     | AJ   |              |                                       |  |                                      |                                       |   | <del> </del>  |  |
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|                     | AL   |              |                                       |  |                                      |                                       |   |               | Yes<br>No  |
|                     | AM   |              |                                       |  |                                      |                                       |   |               | Yes<br>No  |
|                     | AN   |              |                                       |  |                                      |                                       |   |               | Yes<br>No  |
|                     | AO   |              | <u>-</u>                              |  |                                      |                                       |   |               | Yes<br>No.                                       |
|                     | AP   |              | · · · · · · · · · · · · · · · · · · · |  |                                      | . , ,                                 |   |               | Yes<br>No  |
|                     | AP   |              | OTUTE (Inc                            | luding Auth  | or, Title, Date,                     | Pertinent Pa                          | res etc )                               |               | 1,0  |
|                     | AR   | 21           | Peters, J                             | JM. "Subun   | its and substrat<br>49, Academic Pre | es of the ana                         | phase-pro                               |               | mplex," <i>Exper</i> .                           |
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### INFORMATION DISCLOSURE STATEMENT

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| APPLICANT<br>Gmachl, et al. |                            |
| FILING DATE                 | GROUP                      |

|                     |   |              |              |   | 06/29/2001                 | 1641      |               |             |  |
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|                     | AG  |              |              |   |                            | ļ         |               |             |  |
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|                     | AL  |              |              |   |                            |           |               | Yes<br>No   |  |
|                     | AM  |              |              |   |                            |           |               | Yes<br>No   |  |
|                     | AN  |              |              |   |                            |           |               | Yes<br>No   |  |
|                     | AO  |              |              |   |                            |           |               | Yes<br>No   |  |
|                     | AP  |              |              |   |                            |           |               | Yes<br>No   |  |
|                     | 1   |              | OTHER (Incl  | uding Author.   | Title, Date, Pertinent Pag | es, etc.) |               | •           |  |
|                     | OTHER (Including Author, Title, Date, Pertinent Pages, etc.)  Rolfe, M., et al., "Reconstitution of p53-ubiquitinylation reactions from purified components: The role of human ubiquitin-conjugating enzyme UBC4 and E associated protein (E6AP)," Proc. Natl. Acad. Sci. USA 92:3264-3268, National Academy of Sciences (1995) |              |              |   |                            |           | UBC4 and E6-  |             |  |
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|                     | АТ  | <u>22</u>    |              | aurin, A.J., et al., "Does this have a familiar RING?," <i>Trends Biochem. Sci</i> .<br>1:208-214, Elsevier Science Ltd (1996)  |                            |           |               |             |  |
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**EXAMINER:** Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

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### INFORMATION DISCLOSURE STATEMENT

| Q | MAY. DOCKET NO.<br>0652.2310001 | APPLICATION NO. 09/893,443 |
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|   | APPLICANT<br>Gmachl, et al.     |                            |
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|                     | AL          |              |  |  |  |                          |                         | Yes<br>No               |
|                     | AM          |              |  |  |  |                          |                         | Yes<br>No               |
|                     | AN          |              |  |  |  |                          |                         | Yes<br>No               |
|                     | AO          |              |  |  |  |                          |                         | Yes<br>No               |
|                     |             |              |  |  |  |                          |                         | Yes                     |
|                     | AP          | Д            |  | <u>                                     </u>               |  |                          |                         | No                      |
|                     | <del></del> | 1            | OTHER (Inc)  | luding Author,   | Title, Date, Pertinent Pag                                   | es, etc.)                |                         |                         |
|                     | AR          | 23           | DNA repli  | ., and Nasmyth<br>cation in <i>Sac</i> o<br>y Press (1993) | n, K., "CLB5 and CLB6, a new<br>charomyces cerevisiae," Gene | v pair of<br>es Dev. 7:  | B cyclins<br>1160-1175, | involved in Cold Spring |
|                     | AS          | 23           | Schwob, E., et al., "The B-Type Cyclin Kinase Inhibitor p40 <sup>sic1</sup> Controls the G1 to S Transition in <i>S. cerevisiae," Cell</i> 79:233-244, Cell Press (1994) |  |  |                          |                         |                         |
|                     | AT          | 23           | Selvin,P.<br>Struct. B   | , "The renaiss   | sance of fluorescence reson<br>1, Nature America Inc. (Sep   | ance energ<br>cember 200 | y transfe:<br>0)        | r," Nat.                |
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### INFORMATION DISCLOSURE STATEMENT

| ATTY. DOCKET NO.<br>0652.2310001 | APPLICATION NO. 09/893,443 |  |
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|                     | AF   |      |                              |                            |                     |  |                     |                     | <del> </del>           |  |
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| -                   | AL   |      |                              |                            |                     |  |                     |                     |                        | Yes<br>No  |
|                     | AM   |      |                              |                            |                     |  |                     |                     |                        | Yes<br>No  |
|                     | AN   |      |                              |                            |                     |  |                     |                     |                        | Yes<br>No  |
|                     | AO   |      |                              |                            |                     |  |                     |                     |                        | Yes<br>No  |
|                     |  |      |                              |                            |                     |  |                     |                     |                        | Yes<br>No  |
|                     | OTHER (Including Author, Title, Date, Pertinent Pages, etc.) |      |                              |                            |                     |  |                     |                     | -/                     |  |
|                     | AR   | 24   | Seol, J                      | .H. et al.,<br>a ubiquitin | "Cdo                | c53/cullin and the e<br>ase module that acti<br>ing Harbor Laborator | ssential            | Hrt1 RI<br>e E2 enz | NG-H2 subi             | unit of SCF<br>," <i>Genes D</i> ev.             |
|                     | AS   | 24   | Sherman<br>Press,            | , F., "Gett<br>Inc. (1991) | ing :               | Started With Yeast,"   | Meth. E             | nzymol.             | 194:3-21,              | Academic   |
|                     | АТ   | 24   | Shevche<br>Stained<br>(1996) | nko, A. et<br>Polyacryla   | <i>al.,</i><br>mide | "Mass Spectrometric<br>Gels," Anal. Chem.                            | Sequenc<br>68:850-8 | ing of F            | roteins f<br>ican Chem | rom Silver-<br>ical Society                      |
| EXAMINER            |  |      | <u> </u>                     |                            |                     |  | 15                  | DATE CON            | SIDERED                |  |

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INFORMATION DISCLOSURE STATEMENT

Gmachl, et al.

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|                     | AL |            |                                |              |   |                                |                                |                        | Yes<br>No                     |
|                     | AM |            |                                |              |   |                                |                                |                        | Yes<br>No                     |
|                     | AN |            |                                |              |   |                                |                                |                        | Yes<br>No                     |
|                     | AO |            |                                |              |   |                                |                                |                        | Yes<br>No                     |
|                     | AP |            |                                |              |   |                                |                                |                        | Yes<br>No                     |
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|                     | AR | <u>25</u>  | scale id                       | entification | l., "Linking ge<br>n of yeast prot<br>1440-14445, Nat | eins from two                  | o dimensional                  | gels,"                 | netry: Large-<br>Proc. Natl.  |
|                     | AS | <u>25</u>  | Strains                        | Designed for | dieter, P., "A<br>Efficient Man<br>Genetics Socie     | nipulation of                  | DNA in Sacch                   | s and Yeas             | st Host<br>cerevisiae,"<br>'  |
|                     | AT | 25         | Sikorski<br>Cloned G<br>(1991) | , R.S. and E | Boeke, J.D., "Int Yeast," <i>Meth</i>                 | in Vitro Muta<br>1. Enzymol. 1 | genesis and E<br>94:302-318, F | Plasmid Sl<br>Academic | nuffling: From<br>Press, Inc. |
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| DOCKET NO.<br>0652.2310001  | APPLICATION NO. 09/893,443 |
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| APPLICANT<br>Gmachl, et al. |                            |
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|                     |    |           |              |  | 00,23,2002  |                             |                                       |                        |
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|                     | AD |           |              |  |   |                             |                                       |                        |
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|                     | AL |           |              |  |   |                             |                                       | Yes<br>No              |
|                     | AM |           |              |  |   |                             |                                       | Yes<br>No              |
|                     | AN |           |              |  |   |                             |                                       | Yes<br>No              |
|                     | AO |           |              |  |   |                             |                                       | Yes<br>No              |
|                     | AO | -         |              |  |   | _                           |                                       | Yes                    |
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|                     | AR | <u>26</u> | Containin    | D. et al., "Reg SCF <sup>Grrl</sup> and R<br>nt of Science | econstitution of G <sub>1</sub> Cyclin<br>bx1," <i>Science 284</i> :662-665<br>(1999) | Ubiquitinat<br>, American A | cion with<br>Associatio               | Complexes<br>n for the |
|                     | AS | 26        | to a Mito    | tic Checkpoint<br>Chem. 269:241:                           | "A Novel Murine Gene Encort<br>Regulator Previously Ide<br>33-24137, American Society | entified in                 | Aspergill                             | us nidulans,"          |
|                     | AT | 26        | Ubiquitin    | Ligase Activ   | osome, a Large Complex Comity, Targets Cyclins for Cell 6:185-198, The Amer           | Destruction                 | at the End                            | d of                   |
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| APPLICANT<br>Gmachl, et al.              |                            |
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|                     | AL |              |                         |   |  |             |                                | Yes<br>No                   |  |
|                     | AM |              |                         |   |  |             |                                | <u></u>                     |  |
|                     | AN |              |                         |   |  |             |                                | Yes<br>No                   |  |
|                     | AO |              |                         |   |  |             |                                | Yes<br>No                   |  |
|                     | AP |              |                         | :   |  |             |                                | Yes<br>No                   |  |
|                     |    |              | OTHER (Incl             | uding Author,   | Title, Date, Pertinent Page  | ges, etc.)  |                                |                             |  |
|                     | AR | <u>27</u>    | Surana, U<br>for the me | ., et al., "De  | estruction of the CDC28/CLB<br>aphase transition in buddi                              | mitotic k   | inase is n<br><i>EMBO J. 1</i> | ot required<br>2:1969-1978, |  |
|                     | AS | <u>27</u>    | Tan, P. e               | n, P. et al., Recruitment of a ROC1-CUL1 Ubiquitin Ligase by Skpl and HOS to talyze the Ubiquitination of ΙκΒα," <i>Mol. Cell 3</i> :527-533, Cell Press (1999) |  |             |                                |                             |  |
|                     | AT | <u>27</u>    | multiple :<br>penalties | sequence align  | "CLUSTAL W: improving the<br>nment through sequence weig<br>atrix choice," Nucl. Acids | hting, pos  | ition-spec                     | ific gap                    |  |
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| APPLICANT<br>Gmachl, et al.      |                            |
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|                     | AM          |  |                        |                                      |  |                           |                        | Yes<br>No                  |  |
|                     | AN          |  |                        |                                      |  |                           |                        | Yes<br>No                  |  |
|                     | AO          |  |                        |                                      |  |                           |                        | Yes<br>No                  |  |
|                     | AP          |  |                        |                                      |  |                           |                        | Yes<br>No                  |  |
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|                     | AR          | <u>28</u>  | Identifica<br>sequence | ation and map                        | ., "Linking yeast genetics<br>ping of the human homolog of<br>a base," <i>Proc. Natl. Acad.</i><br>(1993)  | of CDC27 vi               | a the exp:             | ressed                     |  |
|                     | AS          | 28   | Mitotic S              | pindle and Is                        | S., et al., "CDC27Hs Colocalizes with CDC16Hs to the Centrosome and le and Is Essential for the Metaphase to Anaphase Transition," Cell ell Press (1995) |                           |                        |                            |  |
|                     | АТ          | 28   | Tyers, M. thee dest    | and Jorgense<br>roy," <i>Curr. O</i> | n, P., "Proteolysis and the<br>pin. Genet. Dev. 10:54-64,  | e cell cycl<br>Current Bi | e: with the cology Ltd | his RING I do<br>(February |  |
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|                     | AL  |      |                                 |  |   |                                  |                        | Yes<br>No                     |  |
|                     | АМ  |      |                                 |  |   |                                  |                        | Yes<br>No                     |  |
|                     | AN  |      |                                 |  |   |                                  |                        | Yes<br>No                     |  |
|                     | AO  |      |                                 |  |   |                                  |                        | Yes<br>No                     |  |
|                     | AP  |      |                                 |  |   |                                  | į                      | Yes<br>No                     |  |
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|                     | AR  | 29   | Willems,<br>by the Ub           | A.R., <i>et al.</i> ,<br>iquitin Prote | "Cdc53 Targets Phosphor<br>olytic Pathway," <i>Cell 86</i>                            | rylated Gl Cyc<br>5:453-463, Cel | lins for<br>l Press (  | Degradation<br>1996)          |  |
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|                     | AT  | 29   | Wilm, M.<br>nano-elec<br>(1996) | et al., "Femt<br>trospray mass         | omole sequencing of prot<br>spectrometry," <i>Nature</i> 3                            | eins from pol<br>379:466-469, M  | yacrylami<br>Macmillan | de gels by ,<br>Magazines Ltd |  |
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|                     | AL  |           |                        |  |  |                            |                          | Yes<br>No                    |  |
|                     | AM  |           |                        |  |  |                            |                          | Yes<br>No                    |  |
|                     | AN  |           |                        | ·  |  |                            |                          | Yes<br>No                    |  |
|                     | AO  |           |                        |  |  |                            |                          | Yes<br>No                    |  |
|                     | 7.5 |           |                        |  | 1  |                            |                          | Yes<br>No                    |  |
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|                     | AR  | 30        | Xie, Y. an             | nd Varshavshky<br>H2 finger of E   | /, A., "The E2-E3 interact<br>E3 is required for the syn<br>Oxford University Press (1 | ion in the thesis of m     | N-end rule<br>ultiubiqui | e pathway:<br>tin chain,"    |  |
|                     | AS  | <u>30</u> | Factor Re<br>Biol. Che | Yokouchi, M. et al., "Ligand-induced Ubiquitination of the Epidermal Growth Factor Receptor Invoilves the Interaction of the c-Cbl RING Finger and ObcH7," <i>J. Biol. Chem. 274</i> :31707-31712, American Society of Biochemistry and Molecular Biology, Inc. (1999) |  |                            |                          |                              |  |
|                     | AT  | <u>30</u> | Yu, H. et in mitoti    | al., "Identif<br>c cyclin degra  | fication of a novel ubiqui<br>adation," <i>Curr. Biol. 6</i> :45                       | tin-conjuga<br>5-466, Curr | ting enzyr<br>ent Biolog | ne involved<br>gy Ltd (1996) |  |
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|                     | AL |           |              |  |  |                                       |                        | Yes<br>No                  |  |  |
|                     | AM |           |              |  |  |                                       |                        | Yes<br>No                  |  |  |
|                     | AN |           |              |  |  |                                       |                        | Yes<br>No                  |  |  |
|                     | AO |           |              |  |  |                                       |                        | Yes<br>No                  |  |  |
|                     | AP |           |              |  |  |                                       |                        | Yes<br>No                  |  |  |
|                     | •  |           | OTHER (Inc   | luding Author  | , Title, Date, Pertinent   | Pages, etc.)                          |                        |                            |  |  |
|                     | AR | 31        | Anaphase-    | t al., "Identi:<br>Promoting Comp<br>ent of Science  | fication of a Cullin Homplex," <i>Science 279:</i> 1219-1                    | ology Region<br>1222, America         | in a Subu<br>n Associa | nit of the<br>tion for the |  |  |
|                     | AS | <u>31</u> | Mediate U    | Zachariae, W., and Nasmyth, K., "TPR Proteins Required for Anaphase Progression Mediate Ubiquitination of Mitotic B-type Cyclins in Yeast," <i>Mol. Biol. Cell</i> 7:791-801, American Society for Cell Biology (1996) |  |                                       |                        |                            |  |  |
|                     | АТ | <u>31</u> | Complex of   | of Saccharomyc   | "Identification of Subu<br>es cerevisiae, <i>Science 2</i><br>Science (1996) | nits of the <i>P</i><br>74:1201-1204, | Anaphase-P<br>American | romoting<br>Association    |  |  |
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|                     | AR       | 32        | Complex f     | rom Yeast I   | , "Mass Spectrometric<br>dentification of a Su<br>can Association for t | bunit Related  | to Cullins,"      | Science     |  |
|                     | AS       | <u>32</u> | anaphase-     | Zachariae, W. and Nasmyth, K., "Whose end is destruction: cell division and the anaphase-promoting complex," <i>Genes Dev.</i> 13:2029-2058, Cold Spring Harbor Laboratory (1999) |   |                |                   |             |  |
|                     | АТ       | 32        | Inhibitor     | Involved i  | ntification of a Vert<br>n Transformation and<br>for the Advancement    | Tumorigenesis, | ," Science 28     |             |  |
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|                     | AE  | <del>  </del>  |                        | <del>                                     </del>                                  | <b>_</b>                      | <b></b>      | <u> </u>   | <u> </u>     |  |  |  |
|                     | AF  | <del> </del>   |                        | <del>                                     </del>                                  | <b></b>                       | <del> </del> | <u> </u>   | <u> </u>     |  |  |  |
|                     | AG  | —  |                        | ļ   | <del> </del>                  | <del> </del> | <b></b>  | ļ            |  |  |  |
|                     | AH  | —  |                        | <del> </del>  |                               | <del> </del> | <del>                                     </del> |              |  |  |  |
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|                     | AL1 | igspace  |                        |   |                               |              | <b>_</b>   | Yes<br>No    |  |  |  |
|                     | AM1 |  |                        |   |                               | <u> </u>     |  | Yes<br>No    |  |  |  |
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|                     | AO  | <u> -</u>  |                        |   |                               |              |  | Yes<br>No    |  |  |  |
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|                     | AS  | <u>33</u>  | NCBI Entre             | NCBI Entrez, GenBank Accession No. M55604, from Hatfield, P.M., et al. (Apr 1993) |                               |              |  |              |  |  |  |
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|                     | АТ  | <u>33</u>  | NCBI Entre             | ez, GenBank Ac  | ccession No. U39317, from Jer | nsen, J.P.   | , et al.   | (Mar 1996)   |  |  |  |
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### INFORMATION DISCLOSURE STATEMENT

| ATTY. DOCKET NO.<br>0652.2310001 | APPLICATION NO. 09/893,443 |  |  |  |
|----------------------------------|----------------------------|--|--|--|
| APPLICANT<br>Gmachl et al.       |                            |  |  |  |
| FILING DATE<br>06/29/2001        | GROUP<br>1641              |  |  |  |

| AL1 No  Yes  AM1 Yes  AN Yes  AO Yes  No  Yes  No  |          | <del> · · · · · · · · · · · · · · · · · ·</del> |           |            |                                       | DAMENT DOCUMENTO    |          |            |              |             |
|--|----------|---|-----------|------------|---------------------------------------|---------------------|----------|------------|--------------|-------------|
| INITIAL   DOCUMENT   DATE   NAME   CLASS   SUB-CLASS   AA1   |          |   |           |            |                                       | PATENT DOCUMENTS    |          | ī          |              | 1           |
| AB   |          |   |           |            | DATE                                  | NAME                |          | CLASS      |              | FILING DATE |
| AB   |          | AA1   |           |            |                                       |                     |          |            |              |             |
| AD AE AE AF AF AG AG AG AH ACCESSION NO. AF142060, from Ohta, T., et al. (Mar 2001)  AD AE AE AG   |          | AB  |           |            |                                       |                     |          |            |              |             |
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| AF AG AI AI AI AI AJ AJ AX BOUNTRY CLASS SUBCLASS NO AM AI ALI ALI ALI AM AT ALI AM AT ALI AM AT ALI AM AT AM  |          | AD  |           |            |                                       |                     |          |            |              |             |
| AG AH AI AI AI AI AJ AJ AK FOREIGH PATENT DOCUMENTS  EXAMINER INITIAL DOCUMENT DATE COUNTRY CLASS SUBCLASS TRANSLATION CLASS NO NO NOTHER (Including Author, Title, Date, Pertinent Pages, etc.)  AR 24 NCBI Entrez, GenBank Accession No. AF142060, from Ohta, T., et al. (Jul 1999)  AT 34 NCBI Entrez, GenBank Accession No. AF247565, from Chan, A.H. et al. (Mar 2001)  | -        | AE  |           |            |                                       |                     |          |            |              |             |
| AH AI  |          | AF  |           |            |                                       |                     |          |            |              |             |
| AH   |          | AG  |           |            |                                       |                     |          |            |              |             |
| AI   |          | AH  | 1         |            |                                       |                     |          |            |              |             |
| EXAMINER INITIAL DOCUMENT DATE COUNTRY CLASS SUB-CLASS NO CLASS NO   |          | AI  |           |            |                                       |                     |          |            |              |             |
| EXAMINER INITIAL DOCUMENT DATE COUNTRY CLASS SUB-CLASS YES NO CLASS NO YES NO  |          | AJ  |           |            |                                       |                     |          |            |              |             |
| EXAMINER INITIAL DOCUMENT DATE COUNTRY CLASS SUB-CLASS YES NO CLASS NO YES NO YES NO NO Y |          | AK  |           |            |                                       |                     |          |            |              |             |
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| AL1  |          | ļ   | 1         |            | DATE                                  | COUNTRY             |          | CLASS      |              | TRANSLATION |
| AM1 Yes AN Yes AN Yes AO Yes No  OTHER (Including Author, Title, Date, Pertinent Pages, etc.)  AR 34 NCBI Entrez, GenBank Accession No. AF142059, Ohta, T., et al. (Jul 1999)  AS 34 NCBI Entrez, GenBank Accession No. AF142060, from Ohta, T., et al. (Jul 1999)  AT 34 NCBI Entrez, GenBank Accession No. AF247565, from Chan, A.H. et al. (Mar 2001)   |          | AL1   |           |            |                                       |                     |          |            |              | Yes<br>No   |
| AN Yes No AO Yes No OTHER (Including Author, Title, Date, Pertinent Pages, etc.)  AR 34 NCBI Entrez, GenBank Accession No. AF142059, Ohta, T., et al. (Jul 1999)  AS 34 NCBI Entrez, GenBank Accession No. AF142060, from Ohta, T., et al. (Jul 1999)  AT 34 NCBI Entrez, GenBank Accession No. AF247565, from Chan, A.H. et al. (Mar 2001)  |          |   |           |            |                                       | ·                   |          |            |              | Yes         |
| AN Yes No  OTHER (Including Author, Title, Date, Pertinent Pages, etc.)  AR 34 NCBI Entrez, GenBank Accession No. AF142059, Ohta, T., et al. (Jul 1999)  AS 34 NCBI Entrez, GenBank Accession No. AF142060, from Ohta, T., et al. (Jul 1999)  AT 34 NCBI Entrez, GenBank Accession No. AF247565, from Chan, A.H. et al. (Mar 2001)   |          | AMI   | +-        |            |                                       | <del> </del>        |          | -          | <del> </del> | 1           |
| AC AP OTHER (Including Author, Title, Date, Pertinent Pages, etc.)  AR 34 NCBI Entrez, GenBank Accession No. AF142059, Ohta, T., et al. (Jul 1999)  AS 34 NCBI Entrez, GenBank Accession No. AF142060, from Ohta, T., et al. (Jul 1999)  AT 34 NCBI Entrez, GenBank Accession No. AF247565, from Chan, A.H. et al. (Mar 2001)  |          | AN  |           |            |                                       |                     |          |            |              | Yes<br>No   |
| OTHER (Including Author, Title, Date, Pertinent Pages, etc.)  AR 34 NCBI Entrez, GenBank Accession No. AF142059, Ohta, T., et al. (Jul 1999)  AS 34 NCBI Entrez, GenBank Accession No. AF142060, from Ohta, T., et al. (Jul 1999)  AT 34 NCBI Entrez, GenBank Accession No. AF247565, from Chan, A.H. et al. (Mar 2001)  |          |   |           |            |                                       |                     |          |            |              | Yes         |
| AP OTHER (Including Author, Title, Date, Pertinent Pages, etc.)  AR 34 NCBI Entrez, GenBank Accession No. AF142059, Ohta, T., et al. (Jul 1999)  AS 34 NCBI Entrez, GenBank Accession No. AF142060, from Ohta, T., et al. (Jul 1999)  AT 34 NCBI Entrez, GenBank Accession No. AF247565, from Chan, A.H. et al. (Mar 2001)   |          | AO  |           |            |                                       |                     |          |            |              | No          |
| AR 34 NCBI Entrez, GenBank Accession No. AF142059, Ohta, T., et al. (Jul 1999)  AS 34 NCBI Entrez, GenBank Accession No. AF142060, from Ohta, T., et al. (Jul 1999)  AT 34 NCBI Entrez, GenBank Accession No. AF247565, from Chan, A.H. et al. (Mar 2001)  |          | 1   |           |            |                                       |                     |          |            |              | Yes         |
| AR 34 NCBI Entrez, GenBank Accession No. AF142059, Ohta, T., et al. (Jul 1999)  AS 34 NCBI Entrez, GenBank Accession No. AF142060, from Ohta, T., et al. (Jul 1999)  AT 34 NCBI Entrez, GenBank Accession No. AF247565, from Chan, A.H. et al. (Mar 2001)  |          | AP  |           |            |                                       |                     |          | 1          |              | NO          |
| AS 34 NCBI Entrez, GenBank Accession No. AF142060, from Ohta, T., et al. (Jul 1999)  AT 34 NCBI Entrez, GenBank Accession No. AF247565, from Chan, A.H. et al. (Mar 2001)  |          |   |           | OTHER (Inc | luding Author,                        | Title, Date, Perti  | nent Pag | es, etc.)  |              |             |
| AT 34 NCBI Entrez, GenBank Accession No. AF247565, from Chan, A.H. et al. (Mar 2001)   |          | AR  | <u>34</u> | NCBI Entr  | ez, GenBank Ac                        | cession No. AF14205 | 9, Ohta, | T., et a   | l. (Jul 19   | 99)         |
|  |          | AS  | 34        | NCBI Entr  | ez, GenBank Ac                        | cession No. AF14206 | 0, from  | Ohta, T.,  | et al. (Ji   | ıl 1999)    |
| EXAMINER DATE CONSIDERED   |          | AT  | <u>34</u> | NCBI Entr  | ez, GenBank Ac                        | cession No. AF24756 | 5, from  | Chan, A.H. | . et al. (1  | Mar 2001)   |
|  | EXAMINER |   |           | •          | · · · · · · · · · · · · · · · · · · · |                     |          | DATE CONS  | IDERED       |             |

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### INFORMATION DISCLOSURE STATEMENT

| WITY. DOCKET NO. 0652.2310001 | APPLICATION NO. 09/893,443 |  |  |  |
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| APPLICANT<br>Gmachl et al.    |                            |  |  |  |
| FILING DATE                   | GROUP                      |  |  |  |

|                     |             |           |              | v.s.           | PATENT DOCUMENTS            |           |               | · · · · · · · · · · · · · · · · · · · |
|---------------------|-------------|-----------|--------------|----------------|-----------------------------|-----------|---------------|---------------------------------------|
| EXAMINER<br>INITIAL |             | DOCU      | UMENT<br>BER | DATE           | NAME                        | CLASS     | SUB-<br>CLASS | FILING DATE                           |
|                     | AA1         |           |              |                |                             | 1         |               |                                       |
|                     | AB          |           |              |                |                             |           |               |                                       |
|                     | AC          |           |              |                |                             |           |               |                                       |
|                     | AD          |           |              |                |                             |           |               |                                       |
|                     | AE          |           |              |                |                             |           |               |                                       |
|                     | AF          |           |              |                |                             |           |               |                                       |
|                     | AG          |           | - <u></u>    |                |                             |           |               |                                       |
|                     | АН          |           |              |                |                             |           |               |                                       |
|                     | AI          |           |              |                |                             |           |               |                                       |
| - 11 - 1            | AJ          | 1         |              |                |                             |           |               |                                       |
|                     | AK          |           |              |                |                             |           |               |                                       |
|                     | <del></del> | •         |              | FOREIG         | N PATENT DOCUMENTS          |           |               |                                       |
| EXAMINER<br>INITIAL |             | DOCT      | UMENT<br>BER | DATE           | COUNTRY                     | CLASS     | SUB-<br>CLASS | TRANSLATION                           |
|                     | AL1         |           |              |                |                             |           |               | Yes<br>No                             |
|                     | <u> </u>    |           |              |                |                             |           |               | Yes                                   |
|                     | AM1         | <u> </u>  |              |                |                             |           | -             | No                                    |
|                     | AN          |           |              |                |                             |           |               | Yes<br>No                             |
|                     | AO          |           |              |                |                             |           |               | Yes<br>No                             |
| <u> </u>            | <u> </u>    |           |              |                |                             |           |               | Yes                                   |
|                     | AP          |           |              |                |                             | <u> </u>  |               | No                                    |
| r.                  |             |           | OTHER (Inc   | luding Author, | Title, Date, Pertinent Pag  | es, etc.) |               |                                       |
|                     | AR          | <u>35</u> | NCBI Entr    | ez, GenBank Ac | cession No. U33199, from Si | galas, T. | et al. (N     | ov 2001)                              |
|                     | AS          | <u>35</u> |              |                |                             |           |               |                                       |
|                     | АТ          | <u>35</u> |              |                |                             |           |               |                                       |
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